

has also been cancelled without prejudice in response to this Office Action. Claims 57-67 and 69-72 remain pending.

The present invention relates to modified pigment products comprising a pigment having attached at least one aromatic or alkyl group X which is substituted with at least one group comprising the formula $-[\text{polymer}]R$. The group “polymer” represents repeating monomer groups or multiple monomer groups or both. Ink compositions and, in particular, inkjet ink compositions comprising these modified pigment products are also disclosed.

Rejection of Claims 57-72 under 35 U.S.C. § 112

The Examiner has rejected the claims 57-72 under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully disagree.

Claim 57 relates to a modified pigment product comprising a pigment having attached at least one aromatic or alkyl group X, and claim 65 relates to an ink composition comprising this modified pigment. In both claims, a formula is used to describe the invention. X is substituted with at least one group comprising the formula $-[\text{polymer}]R$. In order to clearly make proper reference to the components of this formula, Applicants have used quotes around the term “polymer”. Thus, Applicants have put the name of this group in quotes (“polymer”) when referring to this component of the formula throughout the specification and claims.

In paragraph 7(a) of the Office Action, the Examiner states that the scope of claims 57 and 65, which recite “wherein “polymer” represents repeating monomer groups or multiple monomer groups or both”, is confusing because it is not clear what is meant by polymer “represents” repeating monomer groups. The Examiner requests clarification, stating that it is not clear how a polymer is represented by monomers.

As described above, “polymer” refers to the group in the formula $-[\text{polymer}]R$. Claims 57 and 65 define what the group “polymer” represents – namely repeating monomer groups or

multiple monomer groups or both. Applicants therefore believe that claims 57 and 65 are clear and are not indefinite under Section 112.

In paragraph 7(b) of the Office Action, the Examiner states that the scope of claims 57, 65, 68, and 69, which each recite “polymer” wherein polymer is in quotes, is confusing because it is not clear what is encompassed by this terminology. The Examiner requests clarification as to why the recitation is in quotes.

As described above, the recitation of polymer in quotes (“polymer”) refers to the group in the formula –[polymer]R. Applicants therefore believe that claims 57, 65, and 69 are clear and are not indefinite under Section 112. Further, claim 68 has been cancelled without prejudice by this amendment, making the rejection of this claim moot.

In paragraph 7(c), the Examiner states that the scope of claim 69, which recites “wherein said “polymer” is a polyolefin group, a polycarbonate group...”, is confusing because it is not clear how the polymer is a polymer “group”. In addition, the Examiner questions how this claim differs from claim 68 and requests clarification.

Claim 68 has been cancelled without prejudice by this amendment, making the rejection of this claim moot. Further, as described above, “polymer” refers to the group in the formula –[polymer]R. Thus, claim 69 further defines what the group “polymer” is – namely a polyolefin group, a polycarbonate group, etc. Applicants therefore believe that claim 69 is clear and is not indefinite under Section 112.

Therefore, Applicants believe that the above-identified claims are not indefinite and respectfully request that the rejection be withdrawn.

Rejection of Claims 57-59 and 62-72 under 35 U.S.C. § 102

Tsang et al.

The Examiner has rejected the claims 57-59 and 62-72 as being anticipated by Tsang et al. (U.S. Patent No. 6,150,433). Applicants respectfully disagree.

In paragraph 9 of the Office Action, the Examiner states that Tsang et al. discloses a modified pigment product comprising a pigment having attached at least one aromatic group or alkyl group, i.e. presently claimed X, which itself is substituted with a polymer such as poly(meth)acrylic acid, polystyrene, and polyalkyl(meth)acrylate wherein the alkyl(meth)acrylate from which the polymer is obtained possesses an alkyl group, i.e. presently claimed X'. The Examiner further states that there is also attached to the pigment another chemical group which comprises a carboxylic group or sulfonate group such as carboxyphenyl or sulfophenyl group, and that there is also disclosed an ink jet ink comprising this pigment.

The present application is a divisional of non-provisional U.S. Patent Application No. 09/285,253, filed April 2, 1999, which claims priority to U.S. Provisional Patent Application No. 60/080,598, filed April 3, 1998 (see Preliminary Amendment filed December 20, 1999). Tsang et al has an effective filing date of July 31, 1998. As such, Applicants believe that Tsang et al. is not prior art under 102(e) and respectfully request that this rejection be withdrawn.

Moffatt et al.

The Examiner has rejected the claims 57-59 and 62-72 as being anticipated by Moffatt et al. (U.S. Patent No. 6,221,932). Applicants respectfully disagree.

In paragraph 10 of the Office Action, the Examiner states that Moffatt et al. discloses a modified pigment product comprising a pigment having attached at least one aromatic group or alkyl group, i.e. presently claimed X, which itself is substituted with a polymer such as polyvinyl alcohol and monoalkyl ether of polyethylene glycol or poly(hydroxyalkyl)methacrylate either of which possess an alkyl group, i.e. presently claimed X'. The Examiner further states that there is also attached to the pigment another chemical group which comprises a carboxylic group or sulfonate group such as carboxyphenyl or sulfophenyl group, and that there is also disclosed an ink jet ink comprising this pigment.

The present application is a divisional of non-provisional U.S. Patent Application No. 09/285,253, filed April 2, 1999, which claims priority to U.S. Provisional Patent Application No. 60/080,598, filed April 3, 1998 (see Preliminary Amendment filed December 20, 1999). Moffatt

et al does not have an effective filing date before April 3, 1998. Moffatt et al has an effective filing date of October 20, 1998 or possibly July 31, 1998. As such, Applicants believe that Moffatt et al. is not prior art under 102(e) and respectfully request that this rejection be withdrawn.

Rejection of Claims 60-61 under 35 U.S.C. § 103(a)

The Examiner has rejected the claims 60-61 as being unpatentable over Tsang et al. (U.S. Patent No. 6,150,433) or Moffatt et al. (U.S. Patent No. 6,221,932) either of which in view of Belmont (U.S. Patent No. 5,672,198). Applicants respectfully disagree.

In paragraph 13 of the Office Action, the Examiner states that, in light of the motivation for using substituted alkyl or aromatic groups on pigments disclosed by Belmont, it therefore would have been obvious to one of ordinary skill in the art to use such substituted groups on the pigment of either Tsang et al. or Moffatt et al. in order to produce a pigment with good dispersion stability and ink with good print quality and optical density, and thereby arrive at the claimed invention.

As stated above, the present application is a divisional of non-provisional U.S. Patent Application No. 09/285,253, filed April 2, 1999, which claims priority to U.S. Provisional Patent Application No. 60/080,598, filed April 3, 1998 (see Preliminary Amendment filed December 20, 1999). Tsang et al. has an effective filing date of July 31, 1998 and Moffatt et al has an effective filing date of October 20, 1998 or possibly July 31, 1998. As such, Applicants believe that neither Tsang et al. nor Moffatt et al. are prior art under 103(a) and respectfully request that this rejection be withdrawn.

Conclusions

This application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, that a

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telephone conference would further expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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Date: March 21, 2002
Attorney Docket No.: 97078CIPDIV1